

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1. (Currently amended) An image capturing system for correction of colors in an image, comprising:

a camera (2) including a lens (41), image capturing devices (31, 37), light detecting elements (31, 33, 37, 38) and a reflection surface (61) for capture of a main scene (110) in the image capturing devices (31, 37), each of the image capturing devices (31, 37) and the light detecting elements (31, 33, 37, 38) having a plurality of color channels,

the reflection surface (61) being disposed within a visual field of the camera (2) for reflection of light from the main scene (110) or a reference scene (121, 121a ~ e) disposed near the main scene (110) for reception by the light detecting elements (31, 33, 37, 38) via the lens (41), ~~a light color measuring portion (72, 153) obtaining~~

a correction unit (72) for correction of colors in the image by the reference signal values (rn, gn, bn) obtained as a value from one pixel (136d) or an average value from a plurality of pixels (131, 131a ~ e, 136a ~ c), for each of the color channels, as reference signal values (rn, gn, bn), out of reflected light from the reference scene (121, 121a ~ e) received by the light detecting elements (31, 33, 37, 38), and

~~a correction unit (72) for correction of colors in the image by the reference signal values (rn, gn, bn).~~

2. (Original) The image capturing system according to claim 1, wherein the correction unit is a correcting portion (72) for practical division by the reference signal values (rn, gn, bn) obtained for each of the color channels, of respective main signal values (r[x] [y], g[x] [y], b[x] [y]) at each of corresponding locations on coordinates in the main scene (110)

captured by the image capturing devices (31, 37), whereby obtaining corrected signal values ($rc[x][y]$, $gc[x][y]$, $bc[x][y]$) as corrected values of the main signal value.

3. (Original) The image processing unit used in the image capturing system according to claim 2, wherein coefficients (sr, sg, sb) having the reference signal values (rn, gn, bn) as respective denominators are obtained in advance for respective multiplication of these coefficients (sr, sg, sb) with the main signal values ($r[x][y]$, $g[x][y]$, $b[x][y]$), whereby performing correction of the main signal.

4. (Original) The image processing unit according to claim 3, wherein the coefficients (sr, sg, sb) have denominators respectively represented by the corresponding reference signal values (rn, gn, bn), and a numerator represented by another coefficient (s) common to all of the color channels.

5. (Currently amended) The image processing unit according to claim 4, wherein the coefficients (sr, sg, sb) are obtained from one ~~of~~ frame of signals sequentially sent from the image capturing devices (31, 37) or the light detecting elements (31, 33, 37, 38), said coefficients (sr, sg, sb) being multiplied respectively with the main signal values ($r[x][y]$, $g[x][y]$, $b[x][y]$) obtained from another frame signal received at a later time, whereby performing correction of the main signal.

6. (Original) The image processing unit according to claim 5, wherein the coefficients (sr, sg, sb) are multiplied respectively with a plurality of sets of the main signal values ($r[x][y]$, $g[x][y]$, $b[x][y]$) obtained from the plurality of other frames, whereby performing correction of the main signal.

7. (Original) The image processing unit according to claim 5, further including a video amplifier (79) for multiplication of the coefficients (sr, sg, sb) with the signals from the other frames.

8-11. (Canceled)

12. (Original) The camera used in the image capturing system according to claim 1, further including a reflection surface moving mechanism (65) capable of disposing the reflection surface (61) out of the visual field of the camera (2).

13. (Currently amended) The image capturing system according to claim 1, further comprising a reflection surface moving mechanism (65) capable of disposing the reflection surface (61) out of the visual field of the camera (2), ~~for disposition of the reflection surface (61) out of the visual field of the camera (2) by the reflection surface (61)~~ after obtaining the reference signal values (rn, gn, bn) for disposition of the reflection surface (61) in the visual field of the camera (2), capturing the main image for disposition of the reflection surface (61) out of the visual field of the camera (2), then colors of the captured main scene(110) capture of the main image, the main signal values ($r[x][y]$, $g[x][y]$, $b[x][y]$) being corrected based on the reference signal values (rn, gn, bn).

14. (Currently amended) ~~The image capturing system according to claim 1~~ An image capturing system for correction of colors in an image, comprising:

a camera (2) including a lens (41), image capturing devices (31, 37), light detecting elements (31, 33, 37, 38) and a reflection surface (61) for capture of a main scene (110) in the image capturing devices (31, 37), each of the image capturing devices (31, 37) and the light detecting elements (31, 33, 37, 38) having a plurality of color channels, the reflection surface (61) being disposed within a visual field of the camera (2) for reflection of light from the main scene (110) or a reference scene (121, 121a ~ e) disposed near the main scene (110) for reception by the light detecting elements (31, 33, 37, 38) via the lens (41),

a light-color measuring portion (72, 153) obtaining a value from one pixel (136d) or an average value from a plurality of pixels (131, 131a ~ e, 136a ~ c), for each of the color channels as reference signal values (rn, gn, bn), out of reflected light from the reference scene (121, 121a ~ e) received by the light detecting elements (31, 33, 37, 38); and

a correction unit (72) for correction of colors in the image by the reference signal values (rn, gn, bn),

wherein each of the image capturing device (31) and the light detecting element (38) is constituted by an individual element of a same characteristic, the lens (41, 41) being provided individually for each of the image capturing device (31) and the light detecting element (38), the lenses (41, 41) being synchronized in zooming and iris controls, the angle and coordinate positions of a starting point of the reflection surface (61) being changed continuously in accordance with the focal length of the lens (41), the reflection surface (61) being fixed within a maximum visual field of the lens (41) for selection from a reference image portion (130), of selected reference portions (137a, 137b) corresponding to the reflection surfaces (61a, 61b) in accordance with the focal length.

15-17. (Canceled)

18. (Original) The image capturing system according to claim 2, further comprising a CG image generating portion (86) for generation of a computer image and a CG light source determining portion (87) for determining a light source color for the computer image for virtual multiplication of the corrected signal values ($rc[x][y]$, $gc[x][y]$, $bc[x][y]$) in each of the color channels with a light source color value obtained by the CG light source determining portion (87) for obtaining a secondary corrected image, the secondary corrected image being merged with the computer image generated by the CG image generating portion (86) into a synthesized image.

19. (Original) The camera used in the image capturing system according to claim 1, wherein each of the image capturing devices (31, 37) and the light detecting elements (31, 33, 37, 38) is constituted by an individual element of a same characteristic.

20. (Original) The camera according to claim 19, wherein the light detecting elements (31, 37) are part of the image capturing devices (31, 37) respectively.

21. (Original) The camera used in the image capturing system according to claim 1, further including a storing portion (77) for storage of an image file containing images captured in the image capturing devices (31, 37) or a holding portion (36) for storage of a film (37) recorded with said images, said images containing the main scene (110) and the reference image portion (130) located at an end portion of an overall image region (100).

22-23. (Canceled)

24. (Original) The camera used in the image capturing system according to claim 1, wherein the main image is laterally elongated rectangular, the reference image portion being placed at an upper portion or a lower portion of the overall image region (100).

25. (Original) The camera used in the image capturing system according to claim 1, wherein the lens (41) is a zoom lens, the angle and coordinate positions of a starting point of the reflection surface (61) being changed in accordance with a focal length of the lens (41).

26-27. (Canceled)

28. (Previously presented) A recording medium recorded with software to be located into a computer for execution of the function realized by the image processing unit according to Claim 3.

29. (Canceled)

30. (Previously presented) The camera according to Claims 13, provided with a cover for prevention of light from entering into the reflection surface from outside of the main scene or the reference scene.

31. (Original) An image capturing system for stabilization of intensity in an image, comprising:

a camera (2) including a lens (41), image capturing devices (31, 37), light detecting elements (31, 33, 37, 38) and a reflection surface (61) for capture of a main scene (110) in the image capturing devices (31, 37), the reflection surface (61) being disposed within a visual field of the camera (2) for reflection of light from the main scene (110) or a reference scene (121, 121a ~ e) disposed near the main scene (110) for reception by the light detecting elements (31, 33, 37, 38) via the lens (41); and

an image processing unit (7) obtaining a value from one pixel (136d) or an average value from a plurality of pixels (131, 131a ~ e), for each of the color channels as reference signal values (rn, gn, bn), out of reflected light from the reference scene (121, 121a ~ e) received by the light detecting elements (31, 33, 37, 38), for practical division by the reference signal values (rn, gn, bn) of respective main signal values (r[x] [y], g[x] [y], b[x] [y]) at each of corresponding locations on coordinates in the main scene (110) captured by the image capturing devices (31, 37),

whereby obtaining corrected signal values (rc[x] [y], gc[x] [y], bc[x] [y]) as corrected values of the main signal value.

32. (Canceled)

33. (Original) The image capturing system according to claim 2, wherein the correction unit includes means for measuring a complimentary color of a color determined by the reference signal values (rn, gn, bn), and optical filter means including an optical filter for reproducing the complementary color and altering a color of an image which reaches the image capturing devices.

34. (Original) The image capturing system according to claim 33, wherein the optical filter is disposed so as to alter a color of the image which reaches the light detecting elements,

the means for obtaining the complementary color controlling the optical filter so as to bring the color balance of the reference signal values (r_n , g_n , b_n) as close as possible to a required color balance.

35. (Original) The image capturing system according to claim 33, wherein the optical filter means includes a plurality of preset filters each having a color balance different from the others, one of the present filters closest to the complementary color being selected.

36-45. (Canceled)

Please add the following new claims.

46. (New) The image capturing system according to claim 1, wherein each of the image capturing device (31) and the light detecting element (38) is constituted by an individual element of a same characteristic, the lens (41, 41) being provided individually for each of the image capturing device (31) and the light detecting element (38), the lenses (41, 41) being synchronized in zooming and iris controls, the angle and coordinate positions of a starting point of the reflection surface (61) being changed continuously in accordance with the focal length of the lens (41), the reflection surface (61) being fixed within a maximum visual field of the lens (41) for selection from a reference image portion (130), of selected reference portions (137a, 137b) corresponding to the reflection surfaces (61a, 61b) in accordance with the focal length.

47. (New) The image capturing system according to claim 1, wherein a surface of the reflection surface (61) is constituted by a material which follows a neutral interface reflection (NIR) theory.

48. (New) The image capturing system according to claim 14, wherein a surface of the reflection surface (61) is constituted by a material which follows the neutral interface reflection (NIR) theory.

49. (New) The image capturing system according to claim 28, wherein a surface of the reflection surface (61) is constituted by a material which follows the neutral interface reflection (NIR) theory.

50. (New) The image capturing system according to claim 31, wherein a surface of the reflection surface (61) is constituted by a material which follows the neutral interface reflection (NIR) theory.